

## Case Study



**Lighthouse Project** – To protect endangered communities in Indonesia from the negative effects of climate change and natural disasters

**The situation:** There is an increasing incidence of landslides in the mountainous region of Tana Toraja, South Sulawesi, Indonesia. There is also a decreasing yield of the main crops (rice and coffee) due to increasingly irregular weather patterns. The topology, with gradients up to 45°, combined with extreme rainfall events and changes to land use and vegetation has increased susceptibility to landslides. The population is made up, overwhelmingly, of small-holder farmers, with land assets of less than 0.5 hectares, who rely heavily on a limited variety of crops for their livelihood. Housing is mostly constructed from wood or bamboo. Education levels are also relatively low and illiteracy is not

## Community-Based Sustainable Development Climate Change - Disaster Risk Reduction

**The solution:** The project makes a link, at household level, between relief type interventions, enhancing resilience, and development interventions, with a focus on climate change adaptation and mitigation, and DRR. A special risk assessment methodology was applied where direct household surveys were used to assess exposure, fragility and resilience.

The three main outcomes that the project seeks to achieve are:

- ❖ Farming practices are more resilient to the negative impacts of climate change and natural disasters.
- ❖ Deforestation, land degradation and greenhouse gas emissions in the areas of intervention are reduced.
- ❖ The target groups, especially the vulnerable groups (women, children and diffable), their assets and livelihood in the project areas are better protected from natural disasters.

**The Results:** The achievements to date include:

A total of 76 families (including 82 female farmers) in the 3 target villages apply at least 3 farming practices which are more resilient to the effects of climate change. Coffee productivity was increased by 0.22 kg/plant. Organic vegetables production has increased by 24%. The use of the system of rice intensification (SRI) has increased productivity by 1.28 tonnes/hectare (24.1 %)

A total of 2906 trees of 8 types have been planted on 10 hectares of degraded land. The project has successfully introduced a number of renewable technologies, such as biogas, energy efficient wood stoves and solar dryers. One of the villages was selected for the National Climate Village Programme by the Provincial Environment Agency.

Disaster Preparedness Teams with a total of 84 members (including 34 females) and early warning systems have been set up in the 3 target villages to check for signs of potential landslides and take suitable action to prevent occurrence or reduce the consequences, which has been effective in saving people's lives and homesteads. Interventions are decided using a risk assessment process to identify the most vulnerable households. A diversion channel was built to protect vulnerable residential areas.



**The Learnings:**

A total of 67 visitors and 48 parishes of the Toraja Church have applied one or more ideas from the project villages in their own location, such as biogas, livestock food supplement, home grown organic vegetables, solar dryer, organic compost, pesticides and fertiliser and SRI. The organic farming practices and home vegetable growing promoted by the project have been adopted by the local government and replicated in all villages in the district. Church World Service, Toraja (CWS), have replicated climate change adaptation activities from the Lighthouse Project in their own target village. As the project is community based the field staff and participants will remain in the village at the end of the project. The village government was also actively involved in the project and some features have already been included in their budget planning, e.g. the operational costs of the disaster preparedness team and providing vegetable seeds. Profits from the livestock scheme will be used to support the climate field school and DRR team at the end of

*As a church-based organisation, we make great use of the well-established organisational structure and networks of GT (Church of Toraja) to disseminate the results and best practice developed by the project, which are then adopted by the broader community.*

*Pusbinlat Motivator GT, as a member of the Network of Christian Organisations in Indonesia (JKLPK), promotes the mainstreaming of climate change adaptation and mitigation, and environmental issues.*

*The project has an influential role in promoting the broader epithet of the church that humans have a mandate to care for the Earth, and therefore it is mankind's responsibility to preserve the environment and promote life.*